

8. SOME THOUGHTS ON BIRDS OF PREY

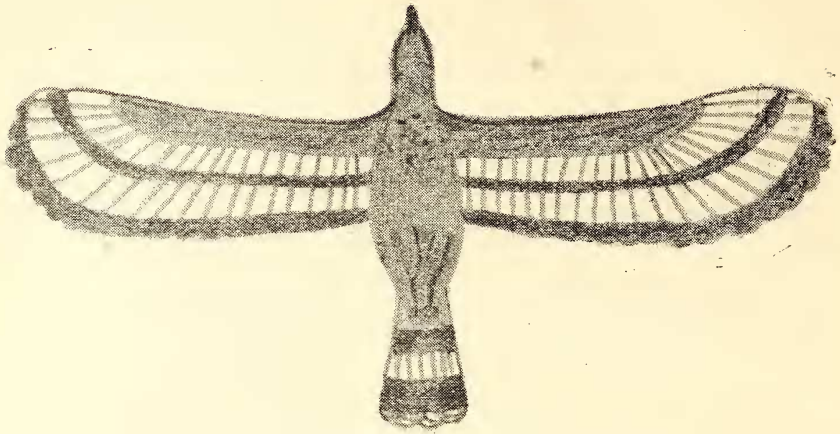
(With a text-figure)

Some years ago, in the offices of the Bombay Natural History Society, I was inspired to commence work on a new handbook of the Diurnal Birds of Prey, bringing up to date in one volume the available knowledge on all the species of birds of prey in the world, and the book is now well under way.

Once started on a task of this sort the writer early becomes aware of the inadequacy of the information already made available by those who had the chance to provide it—by which I mean the many collectors who have shot and skinned birds of prey in the past and are no doubt still doing so. They recorded a few basic measurements such as the wing, tarsus, culmen, and tail, often noted the state of moult, and usually noted the stomach contents. These are facts which tell you something about the bird after it is dead. But few have recorded the weight, the wing span (which I find strange because, in big birds, this is often a subject on which there is much conjecture), and the wing area, although these are facts which can tell you something about the bird in life, how it flies, how much it could possibly lift, and so on.

Then again, there is the question of descriptions. Few descriptions in standard works enable an observer to recognise a bird of prey high up, as big soaring species are seen more often than not. Most descriptions have been written from museum study skins, from which the underwing pattern, so vital to the field observer, cannot be adequately described. Perhaps the best example I know of this failing is the African Bateleur Eagle, *Terathopius ecaudatus*, where the male and the female can be distinguished at once by the underwing pattern at a considerable range, but only with some difficulty in any other way. This was a point that does not seem to have been noted by the many collectors who have shot Bateleurs.

I would therefore appeal to those who collect birds of prey at any time to weigh the bird, measure the wing span and total area (easily done by drawing the wing outline on a sheet of squared paper) and, most important of all, hold up the bird with wings spread against a strong light and make a diagrammatic sketch of the under wing pattern. It need only be very diagrammatic, something like the attached sketch of the Crested Serpent Eagle, *Spilornis cheela*, showing the main pattern of light and dark, and the fact that the wings are very broad and rounded, and that the tail appears rather long.

UNDERWING PATTERN *Spilornis cheela*

Another point that is very inadequately recorded, certainly for eastern species, is their calls. How often one finds some such remark as 'this bird can be recognised by its characteristic call'. The writer does not say what that call sounded like, and one is left none the wiser. 'A clear high scream' is better, but 'a clear high scream, Peeeeee-ooo,' is better still, as you then know that the first syllable is high pitched and long drawn out, the second lower pitched and shorter. To different ears and with variations this call could sound like *queeeee-loo* or *cheeeee-u*, but the basic characteristic of all these renderings is the same, and the reader then has a clear idea of what the call is like—again a vital means of identification for birds of prey which often soar and call high up in nuptial display. The calls of some eastern species have been described, but what sort of noise does *Hieraëetus kienerii* make, or *Aviceda leuphotes*?

To come to another aspect of the study of birds of prey—their food. So many people seem to think that all birds of prey are harmful that authoritative descriptions of the food taken, with the prey species identified as accurately as possible, are needed to refute or confirm these views. I have a huge and powerful eagle nesting six hundred yards from my house in Kenya, and several of my neighbours have expressed alarm for their poultry. But I have been able to reassure them, for from long past experience I can say that the chickens are quite safe, this particular eagle being a mammal-eater living on hyrax and small antelopes, and I have never known it to kill a bird.

To give another example the African Fish Eagle, *Haliaeetus vocifer* lives mainly on fish, and has therefore been thought by some to be a danger to fishery interests. In fact, however, it preys chiefly on the cat-

fish *Clarias* and the lungfish *Protopterus* in Lake Victoria, both of them carnivorous fish which are a danger to the valuable *Tilapia* fisheries in that they take *Tilapia* already caught in gill nets. Thus, a bird which at first might be thought to be in direct competition with mankind is in fact beneficial. *Per contra*, there are several species of Snake Eagles (*Circaëtus*) in Africa, and all Africans with whom I have discussed the point think that because these birds eat snakes they *must* be beneficial. Study of the species of snakes taken, however, indicates that they are nearly all non-poisonous eaters of rats and mice themselves, so that on balance the eagles are probably harmful to man in that they kill predators on crop pests.

In assessing whether a bird of prey can be harmful or beneficial it is desirable to know not only what they eat, but how much. Some of the earlier work on this subject was most misleading. For example, authors would state that a pair of Golden Eagles would each eat at least one grouse per day and so decimate the population of these useful game birds. Recent work has shown that the daily food requirements of a Golden Eagle are from 9-12 ounces, or between 5 and 7 per cent of the bird's bodyweight. Thus a Golden Eagle, even when it eats a whole grouse weighing about 1½ lb., has taken a meal that will suffice it for two days.

In working on Golden Eagles in Scotland it had often puzzled me that these great birds were able to live and thrive in areas where there were very few prey animals such as grouse and hare. Tentatively I concluded that they must eat less than had been generally supposed, and in more recent surveys, correlating the amount of potential prey and carrion with the known food requirements of a Golden Eagle, it has become clear that in the hunting range of every pair the food supply is far greater than the birds can possibly consume. And this leads to the conclusion that it is not food supply alone which controls the population density in a bird like the Golden Eagle, which seems very surprising.

Long term studies of birds of prey, particularly the larger species, are difficult, because few of us have the time to make them. I have been lucky in this respect for I have been studying a group of eagles living on a particular hill for the past 12 years. When I first began this work there were six pairs of eagles on the hill, which had a total area of 4.2 square miles (c. 11 sq. km.). They hunted away from the hill of course, but they never made use of another similar hill of about the same area just across a valley. Despite 12 years' work I am still at a loss for the reason why all the eagles chose

to nest on one hill and to ignore the other, apparently equally suitable hill.

From these studies, some interesting results have emerged. It seems, for instance, that big eagles breed less often than small eagles and may live longer. The largest eagle on the hill, the Crowned Eagle, *Stephanoaëtus coronatus*, has made 7 attempts to breed in 12 years, has reared five young in that time, and is rearing a sixth as I write. The smallest eagle, a very rare species Ayres's Hawk-Eagle, *Hieraaëtus ayresii*, has made an attempt to breed in each of 11 years, and has reared 10 young; in only one year was breeding unsuccessful. This seems to indicate that big eagles might be longer lived than small eagles, and the supposition is borne out by the fact that at the Crowned Eagle's nest there have been only two changes of mate in 12 years, while at the Ayres's Hawk-Eagle's nest there have been certainly three, and probably four, changes in eleven years. At both nests a succession of different birds occupies the nest, and one female and one male Crowned Eagle have each lived a minimum of eight years in the wild state.

This is the sort of study which takes time and requires the luck to be able to watch the birds for many years. One must start at the age of 20 and go on as long as the strength lasts. But there is a great deal of simpler and equally interesting work to be done on Indian birds of prey. For instance, I cannot find anywhere a properly detailed account of the nesting of that common bird the Brahminy Kite, though my own scant observations have indicated that only the female incubates and that she is fed on the nest by the male. And there are other species which are rarer and consequently still less well known. The value of the new monograph on the birds of prey would be greatly enhanced by careful studies of even a single nesting cycle, and it is to be hoped that additional information about some Indian species will come to hand before it goes to press.

KAREH,
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